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Term: l12 and (PCR or polymerase chain reaction)

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DB=USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ			
L15	l12 and (PCR or polymerase chain reaction)	24	L15
L14	l12 and (PCR or polymease chain reaction)	18	L14
L13	L12 and cleav$3 group	0	L13
L12	l10 and incorporat$3	26	L12
L11	L10 and (cleav$4 near5 incorparat$3)	0	L11
L10	L9 and phosphate backbone	26	L10
L9	l4 and (chemic$4 near5 cleav$4)	88	L9
L8	L7 and (polymerase chain reactio or PCR)	23	L8
L7	l5 and (end$1 or termin$3)	44	L7
L6	L5 and PCR	23	L6
L5	L4 and (modif$7 near5 sugar$1)	44	L5
L4	L3 and (free near5 hydroxyl)	186	L4
L3	L2 and immobili$7	2113	L3
L2	(primer$1 or probe$1 or oligonucleotide$1) near5 cleav$4	5099	L2
L1	6287821.pn.	2	L1

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=> s (primer# or probe# or oligonucleotide#)(10a)immobiliz#######(10a)cleav####
L1          85 (PRIMER# OR PROBE# OR OLIGONUCLEOTIDE#)(10A) IMMOBILIZ#######(10
               A) CLEAV####

=> s l1 and (free (10a)hydroxyl)
L2           1 L1 AND (FREE (10A) HYDROXYL)

=> d l2 bib ab kwic

L2   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   1995:551055  CAPLUS
DN   122:310286
TI   Tag reagent containing reporter groups identifiable by mass spectrometry
     and use of tag reagent in nucleic acid sequence determination
IN   Southern, Edwin; Cummins, William Jonathan
PA   ISIS Innovation Ltd., UK
SO   PCT Int. Appl., 67 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     ---------------      ----   --------    --------------------    --------
PI   WO 9504160           A1     19950209    WO 1994-GB1675          19940801
         W:  AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB,
             GE, HU, JP, KE, KG, KP, KR, KZ, LK, LT, LU, LV, MD, MG, MN, MW,
             NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN
         RW: KE, MW, SD, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC,
             NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
     CA 2168010            AA     19950209    CA 1994-2168010         19940801
     CA 2168010            C      20021001
     AU 9472691            A1     19950228    AU 1994-72691           19940801
     AU 695349             B2     19980813
     EP 711362             A1     19960515    EP 1994-922966          19940801
     EP 711362             B1     19971029
         R:  AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE
     CN 1131440            A      19960918    CN 1994-193442          19940801
     CN 1088758            B      20020807
     HU 73802              A2     19960930    HU 1996-27              19940801
     JP 09501830           T2     19970225    JP 1994-505687          19940801
     EP 778280             A2     19970611    EP 1996-119962          19940801
     EP 778280             A3     19990127
     EP 778280             B1     20030102
         R:  AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE
     AT 159767             E      19971115    AT 1994-922966          19940801
     ES 2108479            T3     19971216    ES 1994-922966          19940801
     RU 2158310            C2     20001027    RU 1996-103646          19940801
     JP 3289911            B2     20020610    JP 1995-505687          19940801
     AT 230409             E      20030115    AT 1996-119962          19940801
     FI 9600403            A      19960129    FI 1996-403             19960129
     NO 9600370            A      19960328    NO 1996-370             19960129
     US 5770367            A      19980623    US 1996-586875          19960205
     US 6218111            B1     20010417    US 1997-988384          19971210
     US 2001031472         A1     20011018    US 2001-810162          20010319
     US 2002115091         A1     20020822    US 2001-3830            20011206
     US 6576426            B2     20030610
PRAI GB 1993-15847         A      19930730
     EP 1994-922966        A3     19940801
     WO 1994-GB1675        W      19940801
     US 1996-586875        A1     19960205
     US 1997-988384        A3     19971210
     US 2001-810162        B1     20010319
AB   A reagent A-L-R (A=an analyte moiety comprising at least two analyte
     residues; L=a linking moiety; R=a tag moiety comprising one or more
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reporter groups adapted for detection by mass spectrometry) is described. The reporter group at each position of the tag moiety is chosen to designate an analyte residue at a defined position of the analyte moiety. A plurality of such reagents, each comprising a different analyte moiety, provides a library of reagents which may be used in assay methods involving a target substance. Anal. of the tag moieties indicates the nature of the analyte moieties bound to the target substance. A method of sequencing nucleic acid employs a library of the reagents to determine the sequence of a target nucleic acid. One A-L-R reagent precursor (I) was prepared This precursor contains a dimethoxytrityl group for attachment of the oligonucleotide analyte, an O-t-butyldiphenylsilyl group for attachment of a tag, an N-hydroxysuccinimide group for attachment of the precursor to a solid support (to facilitate attachment of tag and analyte), and a tertiary amine group for conversion to a pos. charged group to mass spectrometric anal. The o-nitrophenol group provides for photocleavage of the A-L-R reagent. I was used to synthesize a tagged oligonucleotide which was employed in nucleic acid sequence determination by progressive ligation. The sequencing method comprised: (1) hybridization of the target sequence to an immobilized oligonucleotide; (2) incubation of the immobilized target with a library of tagged oligonucleotides; (3) ligase-mediated attachment of the hybridized tagged **oligonucleotide** with the **immobilized oligonucleotide**; (4) removal of nonligated tagged **oligonucleotides**; and (5) photolytic **cleavage** of the linker to release the tag (which is analyzed by mass spectrometry) and to generate a **free** 3' **hydroxyl** which can be further probed with tagged oligonucleotides.

AB A reagent A-L-R (A=an analyte moiety comprising at least two analyte residues; L=a linking moiety; R=a tag moiety comprising one or more reporter groups adapted for detection by mass spectrometry) is described. The reporter group at each position of the tag moiety is chosen to designate an analyte residue at a defined position of the analyte moiety. A plurality of such reagents, each comprising a different analyte moiety, provides a library of reagents which may be used in assay methods involving a target substance. Anal. of the tag moieties indicates the nature of the analyte moieties bound to the target substance. A method of sequencing nucleic acid employs a library of the reagents to determine the sequence of a target nucleic acid. One A-L-R reagent precursor (I) was prepared This precursor contains a dimethoxytrityl group for attachment of the oligonucleotide analyte, an O-t-butyldiphenylsilyl group for attachment of a tag, an N-hydroxysuccinimide group for attachment of the precursor to a solid support (to facilitate attachment of tag and analyte), and a tertiary amine group for conversion to a pos. charged group to mass spectrometric anal. The o-nitrophenol group provides for photocleavage of the A-L-R reagent. I was used to synthesize a tagged oligonucleotide which was employed in nucleic acid sequence determination by progressive ligation. The sequencing method comprised: (1) hybridization of the target sequence to an immobilized oligonucleotide; (2) incubation of the immobilized target with a library of tagged oligonucleotides; (3) ligase-mediated attachment of the hybridized tagged **oligonucleotide** with the **immobilized oligonucleotide**; (4) removal of nonligated tagged **oligonucleotides**; and (5) photolytic **cleavage** of the linker to release the tag (which is analyzed by mass spectrometry) and to generate a **free** 3' **hydroxyl** which can be further probed with tagged oligonucleotides.

```
=> s l1 and (chemic####(10a)cleav####)
L3            3 L1 AND (CHEMIC####(10A) CLEAV####)

=> d l3 1-3 bib ab kwic

L3   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
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AN 2003:750104 CAPLUS
DN 139:208379
TI **Chemical cleavage** reactions of DNA on solid support: application in mutation detection
AU Bui, Chinh T.; Lambrinakos, Andreana; Babon, Jeffrey J.; Cotton, Richard G. H.
CS Genomic Disorders Research Centre, St. Vincent's Hospital, University of Melbourne, Fitzroy, 3065, Australia
SO BMC Chemical Biology (2003), 3, No pp. given
CODEN: BCBMBZ; ISSN: 1472-6769
URL: http://www.biomedcentral.com/1472-6769/3/1
PB BioMed Central Ltd.
DT Journal; (online computer file)
LA English
AB Background: The conventional solution-phase Chemical Cleavage of Mismatch (CCM) method is time-consuming, as the protocol requires purification of DNA after each reaction step. This paper describes a new version of CCM to overcome this problem by immobilizing DNA on silica solid supports. Results: DNA test samples were loaded on to silica beads and the DNA bound to the solid supports underwent chemical modification reactions with KMnO4 (potassium permanganate) and hydroxylamine in 3M TEAC (tetraethylammonium chloride) solution The resulting modified DNA was then simultaneously cleaved by piperidine and removed from the solid supports to afford DNA fragments without the requirement of DNA purification between reaction steps. Conclusions: The new solid-phase version of CCM is a fast, cost-effective and sensitive method for detection of mismatches and mutations.
RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT
TI **Chemical cleavage** reactions of DNA on solid support: application in mutation detection
IT **Probes** (nucleic acid)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(**immobilized** on silica beads; chemical **cleavage** reactions of DNA on solid support and application to mismatch mutation detection)
IT 7631-86-9, Silica, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(DNA **probe-immobilized** beads; chemical **cleavage** reactions of DNA on solid support and application to mismatch mutation detection)

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:728141 CAPLUS
DN 129:326948
TI Sizing of primer extension products using primers containing a **chemically cleavable** linkage
IN Monforte, Joseph Albert; Becker, Christopher Hank; Shaler, Thomas Andrew; Pollart, Daniel Joseph
PA SRI International, USA
SO U.S., 59 pp., Cont.-in-part of U.S. Ser. No. 445,751.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5830655	A	19981103	US 1996-639363	19960426
	US 5700642	A	19971223	US 1995-445751	19950522
	CA 2220418	AA	19961128	CA 1996-2220418	19960430
	CA 2220418	C	20030603		
	WO 9637630	A1	19961128	WO 1996-US6116	19960430

W: AU, CA, CN, JP, KR
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

	AU 9656352	A1	19961211	AU 1996-56352	19960430
	AU 695705	B2	19980820		
	EP 828855	A1	19980318	EP 1996-913305	19960430
	EP 828855	B1	19991215		
	R: DE, FR, GB, IT, NL				
	CN 1191575	A	19980826	CN 1996-195707	19960430
	JP 11505127	T2	19990518	JP 1996-535680	19960430
	JP 3437184	B2	20030818		
PRAI	US 1995-445751	A2	19950522		
	US 1996-639363	A	19960426		
	WO 1996-US6116	W	19960430		

AB A method for sizing oligonucleotide primer extension products that minimizes the effect of the primer size on the determination is described. The method can be used to detect mutations, e.g. in mol. diagnosis. The method uses immobilized primers that have an unusual linkage in the phosphodiester backbone near the 3'-end of the primer that can be cleaved chemical Upon selective cleavage of the cleavable site, primer extension products that contain ≤5 bases from the primer are released, to provide more useful sizing and sequence information per fragment than extension products containing the entire primer. Methods for the synthesis of oligonucleotides carrying a modified internucleoside linkage such as a dialkoxysilane or a phosphorothioate is described. Primers containing a riboside that creates a base-cleavable linkage are also described.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

TI Sizing of primer extension products using primers containing a **chemically cleavable** linkage

IT **Immobilization**, biochemical
(of **primers** containing **cleavable** linkages; sizing of **primer** extension products using primers containing chemical **cleavable** linkage)

L3 ANSWER 3 OF 3 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AN 2000:369544 BIOSIS

DN PREV200000369544

TI Method for the quantitative detection of specific nucleic acid sequences.

AU Leying, Hermann [Inventor, Reprint author]; Hinzpeter, Matthias [Inventor]; Wittor, Heiko [Inventor]; Fritton, Hans-Peter [Inventor]

CS Bichl, Germany
ASSIGNEE: Roche Diagnostics GmbH, Mannheim, Germany

PI US 6027886 February 22, 2000

SO Official Gazette of the United States Patent and Trademark Office Patents, (Feb. 22, 2000) Vol. 1231, No. 4. e-file.
CODEN: OGUPE7. ISSN: 0098-1133.

DT Patent

LA English

ED Entered STN: 30 Aug 2000
Last Updated on STN: 8 Jan 2002

AB Method and kit for the quantitative detection of specific oligonucleotide or polynucleotide sequences which is characterized in that a sample mixture containing RNA or single-stranded DNA is hybridized with an oligonucleotide or polynucleotide probe(s) which are complementary to the nucleotide sequence to be determined and carry(ies) a specificplly bindable and a detectable **chemical** group subsequently it is admixed with an agent that **cleaves** single-stranded polynucleotide sequences and the **immobilized** or non-**immobilized** nucleotide **probe** is determined after transfer into a suitable reaction vessel. It has proven to be particularly advantageous when a mixture is used which is composed of different cleaving reagents.

AB. . . polynucleotide probe(s) which are complementary to the nucleotide sequence to be determined and carry(ies) a specificplly bindable and a detectable **chemical** group subsequently it is admixed with an agent that **cleaves** single-stranded polynucleotide sequences and

the **immobilized** or non-**immobilized** nucleotide
probe is determined after transfer into a suitable reaction
vessel. It has proven to be particularly advantageous when a mixture is.
. .

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